

FIG. 15

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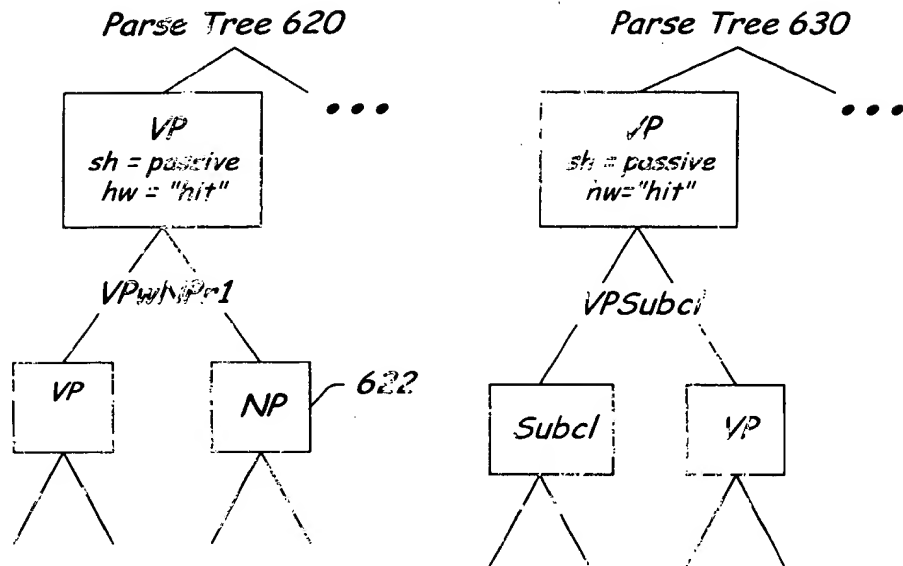


FIG. 13

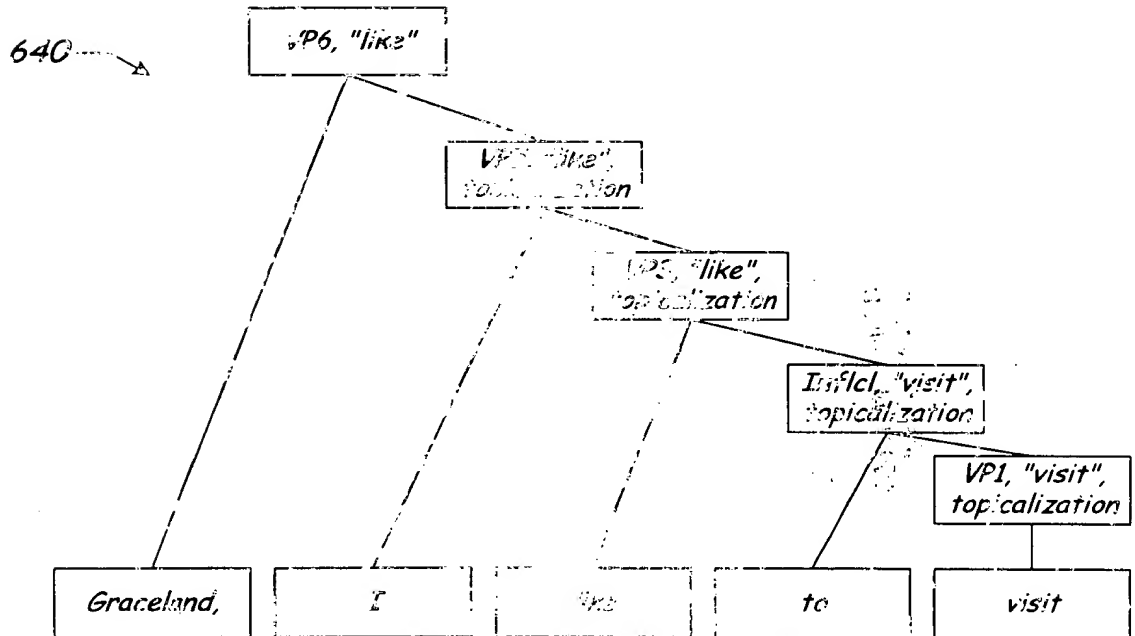


FIG. 14

FIG. 12

Phrase Level	Rule Name	Rule	Level Description
1	VERBtoVP	VP(1) → VPP (PL_NVerb_Max)	Create a VP
	PredAdj	VP(2) → V1(1) AJ1(PL_AJP_Max)	
	VPwNP1	VP(1) → VP(1) NP(PL_AJP_Max)	Add post modifiers
	VPNull2	VP(2) → V2(1)	
2	Perfect	VP(1) → VP(1) VP(2,3)	
	SubjPQuant	VP(3) → NP(PL_AJP_Max) V1(2,1)	Add "have" and quantifiers
	VPNull3	VP(4) → VP(2)	
	VPwNPI	VP(4) → NP(PL_NP_Max) VP(3)	
3	SubjectAJP	VP(4) → NP(PL_AJP_Max) VP(3)	Add subject
	VPNull4	VP(4) → VP(3)	
	InvertAJPwS	VP(5) → AJP(PL_AJP_Max) VP(4)	
	Topicalization	VP(5) → NP(PL_NP_Max) VP(4)	Add modifiers to VPs that have a subject
4	VPNull5	VP(5) → VP(4)	

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Rule Name	Rule	Description (and an example)
VERBtoVP	VP → VERB	Promote a verb into a verb phrase
PredAdj	VP → VP ADJ	Add on an adjective. "It has been <u>found effective</u> "
VPwNPr1	VP → VP NP	Add direct object to a VP "I <u>hit Bill</u> "
Perfect	VP → VP VP	Adds the VP "have" to a VP "Joe <u>had gone</u> "
SubjPQuant	VP → NP VP	Add quantifiers to the VP like "all", "both", ... "The children have <u>all gone</u> "
VPwNPr1	VP → NP VP	Add noun subject to a VP " <u>John jumped</u> ."
SubjectAJP	VP → AJP VP	Add AJP subject to a VP " <u>John is surprising</u> <u>in his attitude</u> "
InvertAJPwS	VP → AJP VP	Add modifier, AJP, to the left of a VP " <u>Remarkable still</u> , he went"
Topicalization	VP → NP VP	Add object of VP, NP, to the left of a VP " <u>A better-looking man</u> I have not seen"

FIG. 10

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FIG. 11a

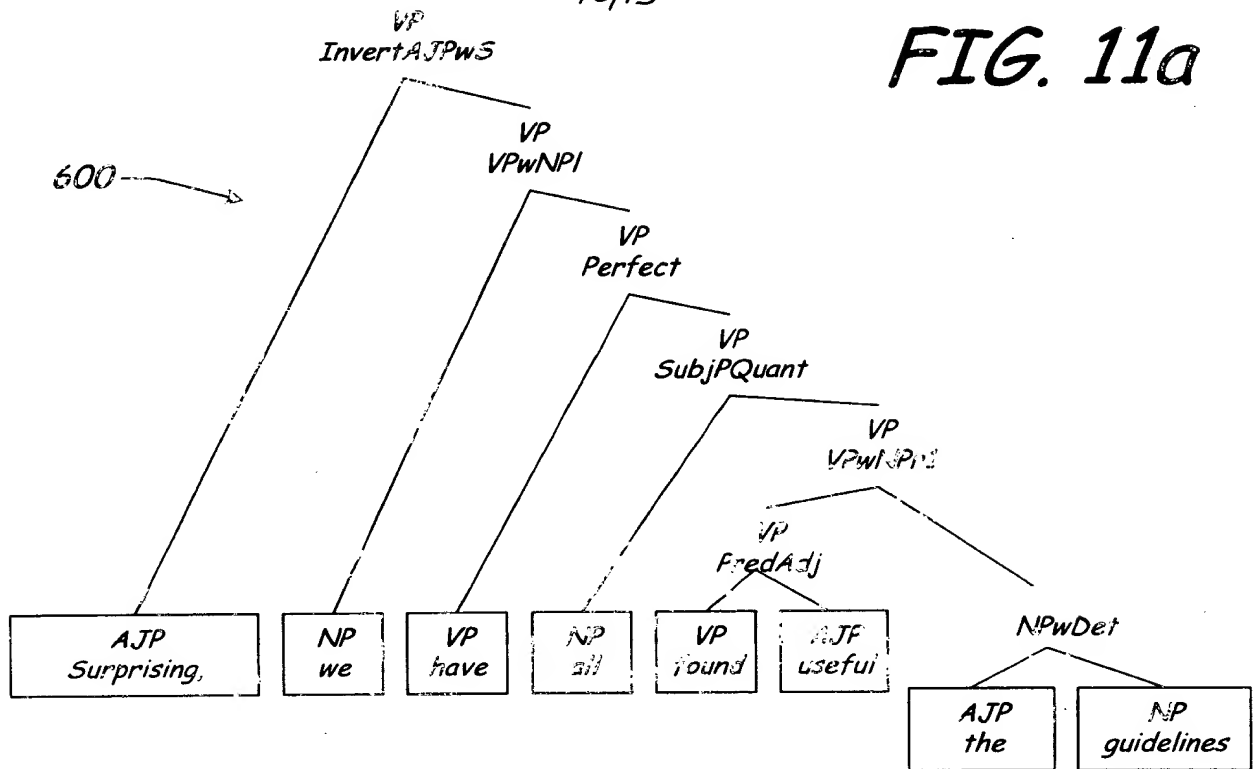
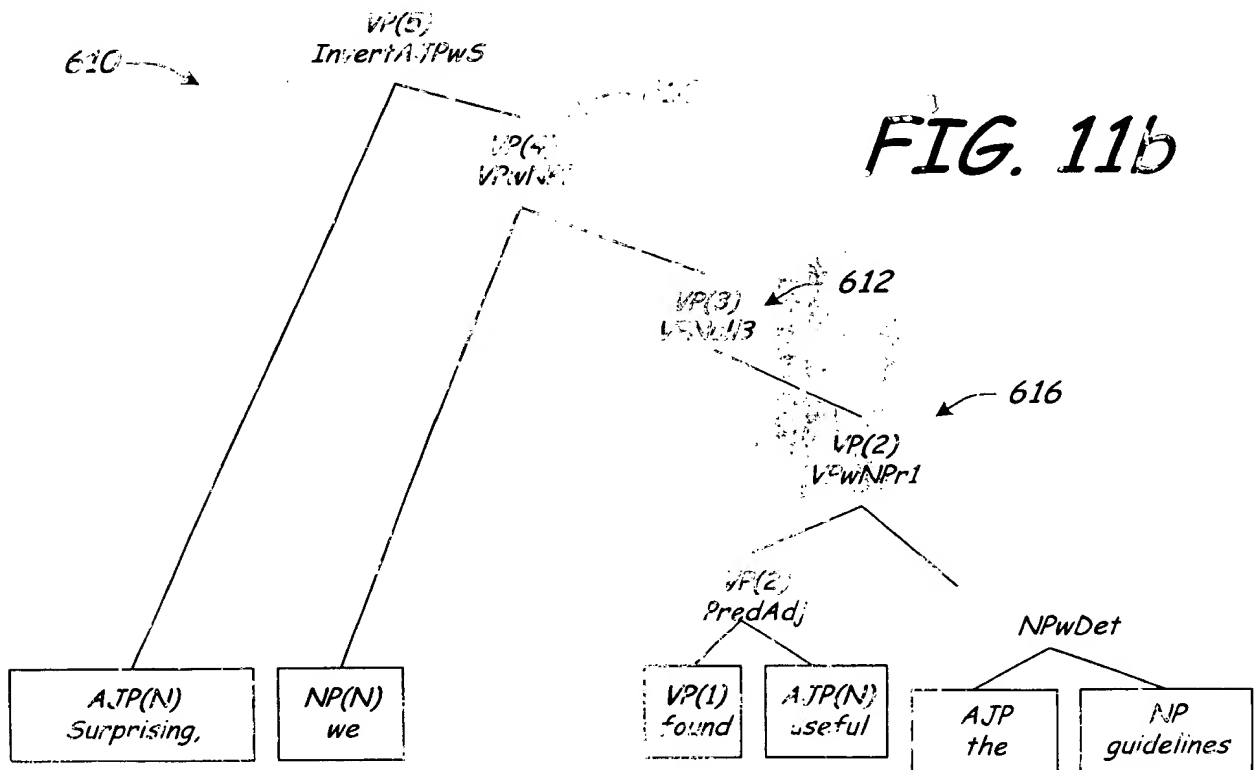


FIG. 11b



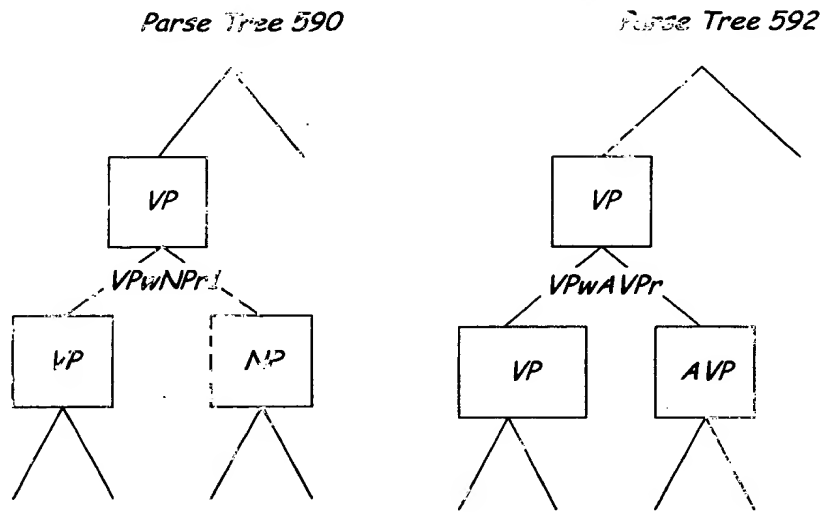


FIG. 9a

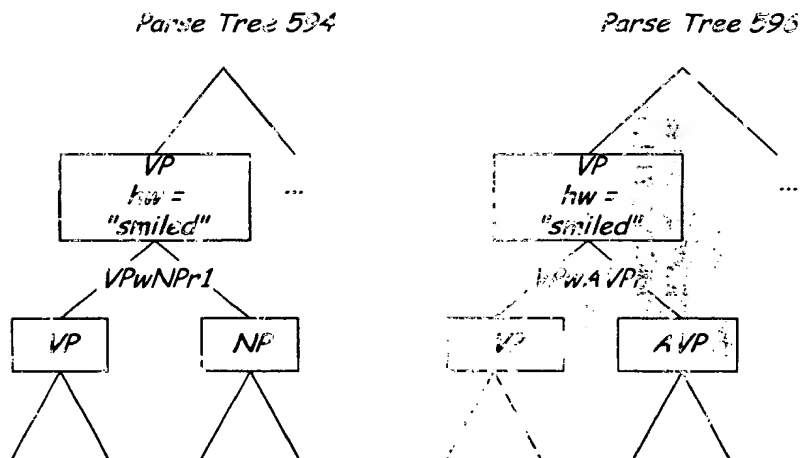
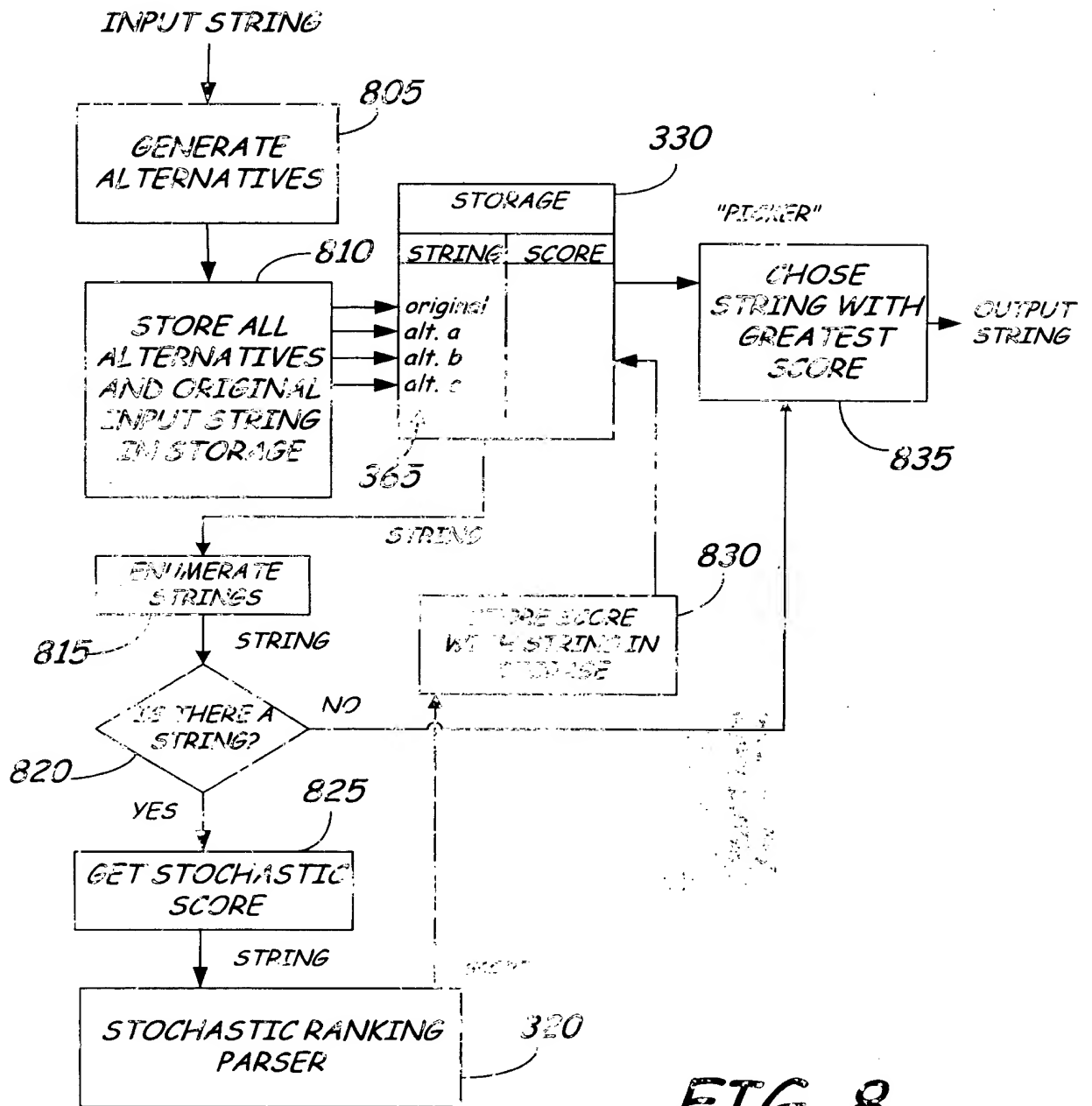


FIG. 9b



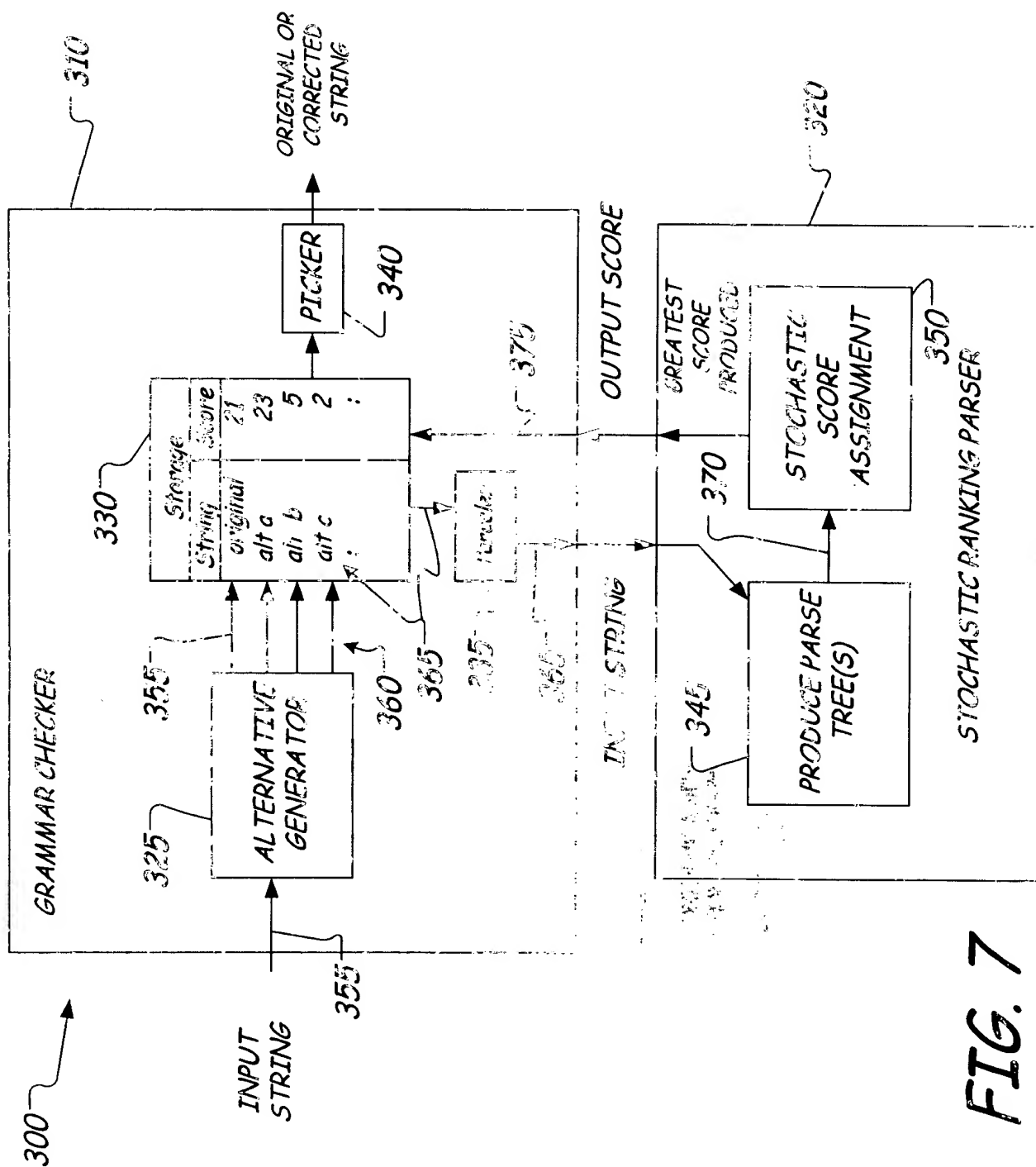


FIG. 7



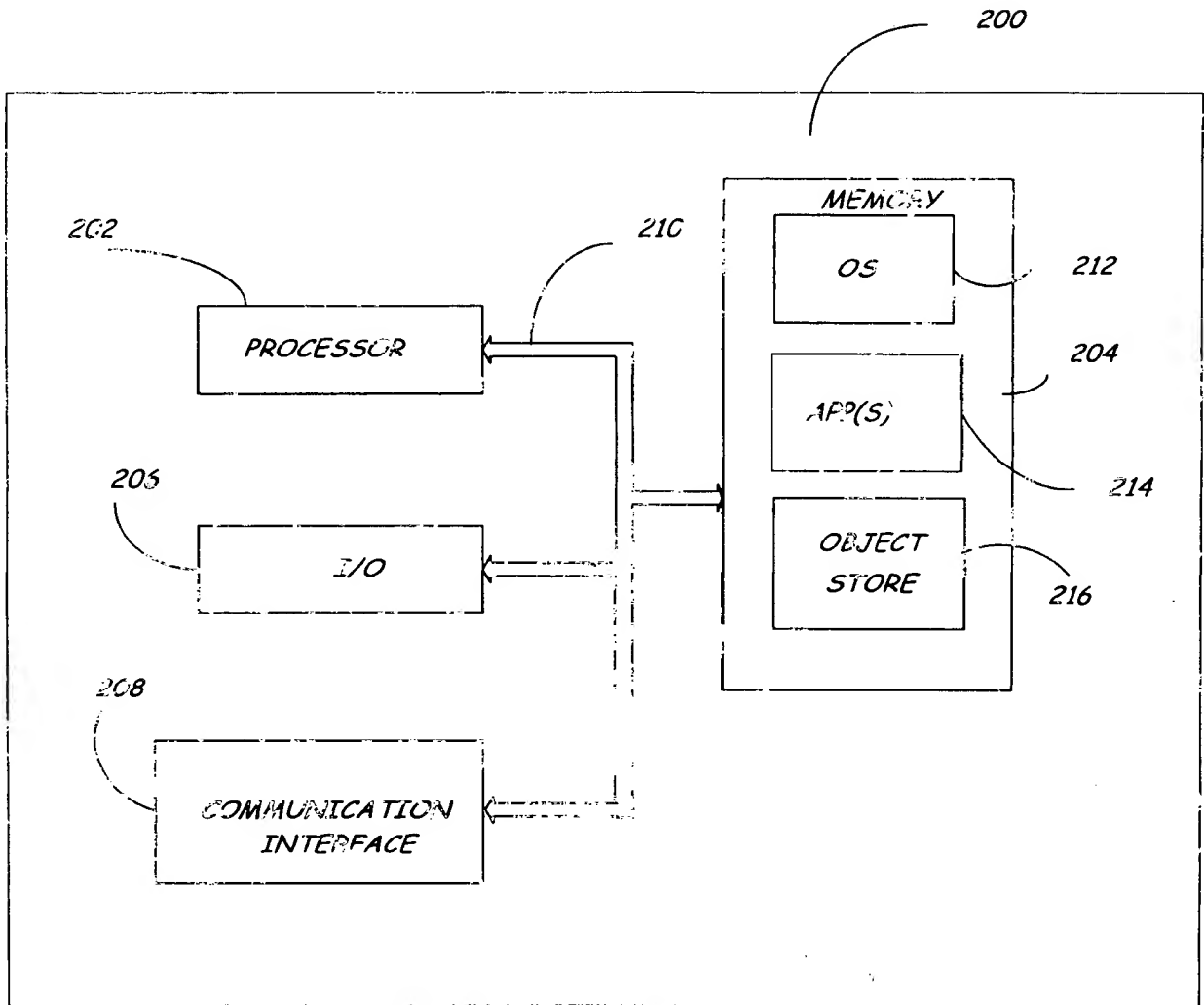
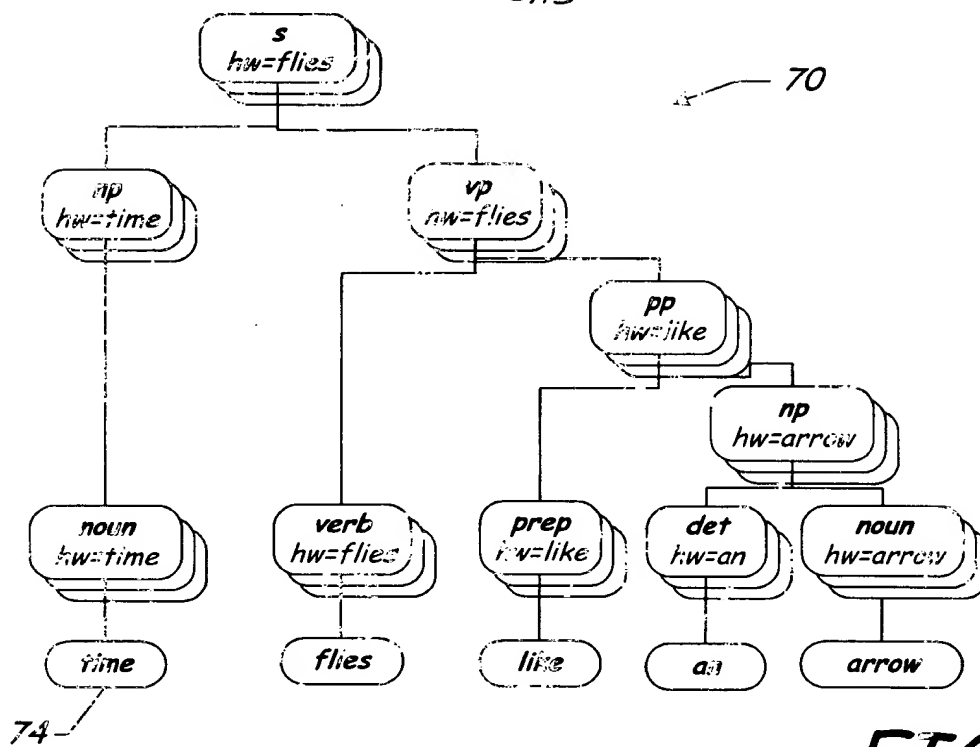


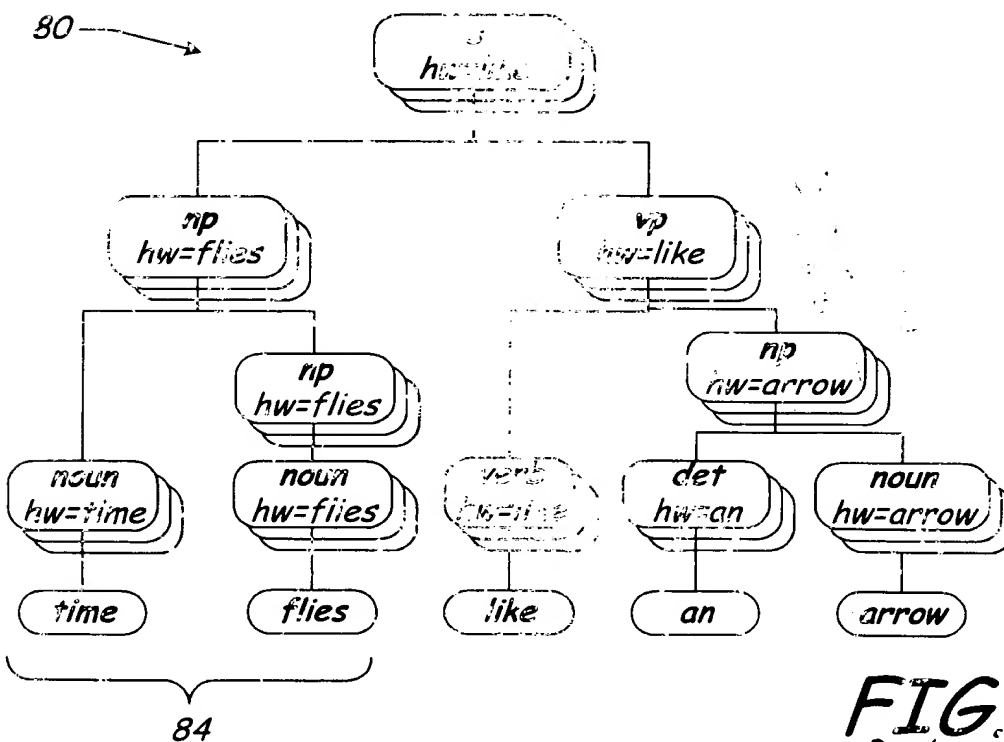
FIG. 6



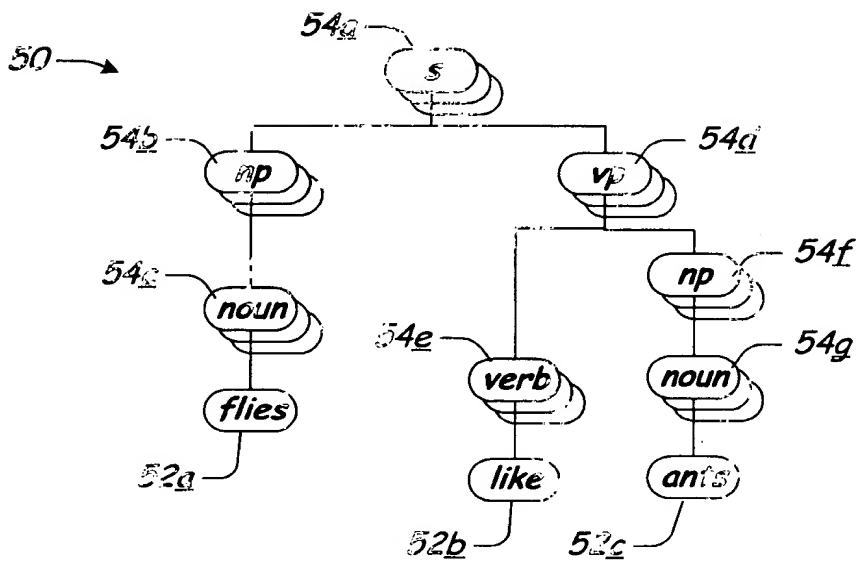
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**FIG. 4a**  
Background



**FIG. 4b**  
Background



**FIG. 2**  
Background

**FIG. 3**  
Background

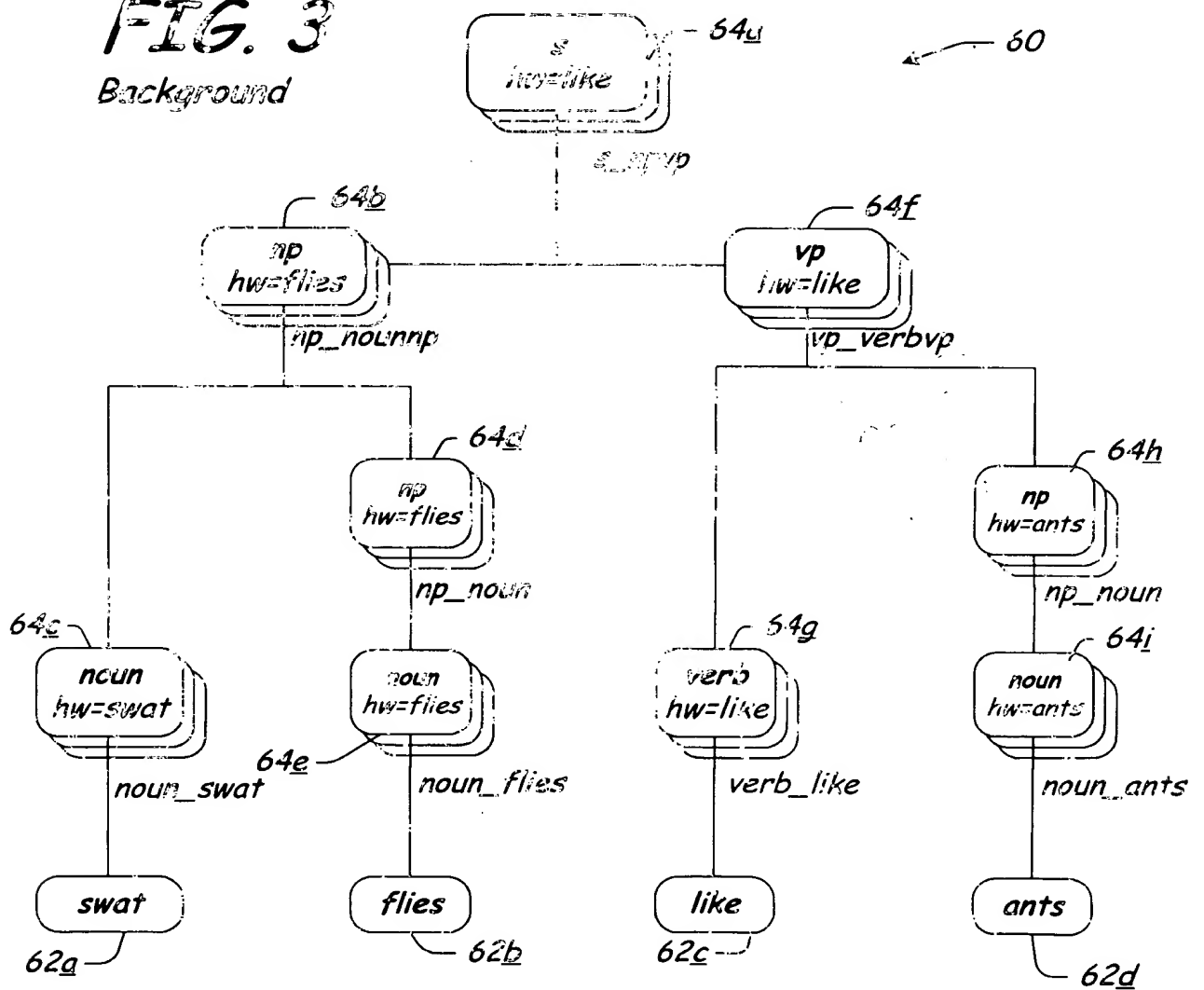


FIG. 1  
Background

